

Claims

1. A push-button switch member comprising a key-top portion for pressing a movable contact point disposed so as to oppose to a stationary contact point on a circuit board against said stationary contact point, and a cover base member provided with the key top portion at a predetermined portion thereof and adapted to be mounted to the circuit board, said key-top portion being provided with a display section displaying a switching function and an area emitter member integrally formed with the display section, wherein said area emitter member is provided with an light emitting layer disposed between a base electrode and a transparent electrode disposed so as to oppose to the base electrode and said transparent electrode is arranged to be contacted to the display section and formed of a transparent conductive polymer.
2. The push-button switch member according to claim 1, wherein said transparent electrode has a surface resistance of not less than $10 \Omega/\square$ and light transmittance of not more than 90%.
3. The push-button switch member according to claim 1 or 2, wherein said transparent electrode has an electroconductive fiber having a diameter of not more than

0.5 μm and an aspect ratio of not less than 20.

4. The push-button switch member according to any one of claims 1 to 3, wherein said transparent electrode is colored.
5. The push-button switch member according to any one of claims 1 to 4, wherein said transparent conductive polymer is composed of a dielectric member formed from either one of derivatives of polypyrrole, polythiophen and polyaniline.
6. The push-button switch member according to any one of claims 1 to 5, wherein elongatable conductive members are connected to said base electrode and said transparent electrode, respectively, and said conductive members having elongating portions to which tensile force is applied at a molding process, are covered with elongatable insulating thin films.
7. The push-button switch member according to claim 6, wherein said conductive members connected respectively to the base electrode and the transparent electrode are arranged so as not to be overlapped with each other.
8. The push-button switch member according to claim 6 or 7, wherein said insulating thin film has a storage modulus, at molding temperature thereof, which is larger than a

storage modulus of the conductive members connected to the base electrode and the transparent electrode at molding temperature thereof.

9. The push-button switch member according to any one of claims 6 to 8, wherein said base electrode and said conductive member connected to the base electrode are comprised of a conductive layer containing organic polymer and conductive filler and said filler has a side length not more than $1/3$ of thickness of the conductive layer.

10. The push-button switch according to claim 9, wherein a conductive layer has the conductive polymer layer.

11. The push-button switch member according to claim 9 or 10, wherein said conductive filler is composed of a fiber material having a diameter of not more than $1\mu\text{m}$.

12. The push-button switch member according to any one of claims 6 to 11, wherein said base electrode and said conductive member connected to the base electrode are formed of conductive polymer.

13. The push-button switch member according to any one of claims 1 to 12, wherein said key-top portion includes key-top body in shape of key-top formed to a rear surface of

said base electrode, and a push projection is formed to the rear surface of the key-top body for contacting the movable electrode to the stationary electrode.

14. The push-button switch member according to any one of claims 1 to 12, wherein said key-top portion has a transparent first resin molded form having a key-top shape to the surface of the transparent electrode through transparent insulating film and a second resin molded form formed with a push projection to the rear surface of the base electrode for contacting the movable electrode to the stationary electrode.

15. The push-button switch member according to any one of claims 1 to 12, wherein a plurality of switch circuits composed of a plurality of key-top portions and base electrodes and transparent electrodes corresponding to the key-top portions, respectively, are integrally formed to said cover base member.

16. A method of manufacturing a push-button switch member according to any one of claims 1 to 15, wherein, at a time when a transparent insulating film, having one surface on which said transparent electrode is formed, is subjected to a drawing process so as to be formed in a predetermined key-top shape, the transparent electrode of the elongating

portion at which tensile force is applied at the drawing process, is formed from elongatable conductive polymer.

17. The method of manufacturing a push-button switch member according to claim 16, wherein at least said elongating portion of the transparent electrode before the drawing process is thickened.

18. A method of manufacturing a push-button switch member according to any one of claims 6 to 15, comprising the steps of forming a transparent electrode at a portion corresponding to a key-top portion formed to one surface of a transparent insulating film covering an outer surface of the key-top portion, forming an light emitting layer on the transparent electrode, forming a base electrode on the light emitting layer, preparing a printed sheet before a drawing process for forming elongatable conductive members connected to the base electrode and the transparent electrode, and drawing the printed sheet so as to provide a predetermined key top shape, wherein the elongating portion constituting a portion of the conductive member to which tensile force is applied at the drawing process is covered with an insulating thin film.